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REMARKS

Claims 1 and 5 were objected to. The claims are amended along the lines suggested by the Examiner, thereby overcoming the objection.

Claims 13-18 were rejected under 35 USC 101. Independent claim 13 is amended herein to overcome the rejection.

Claims 1-8 and 13-16 were rejected under 35 USC 112, second paragraph. Independent claims 1, 5, and 13 were amended to overcome the rejection.

Claims 1-26 were rejected under 35 USC 102 as being anticipated by Beigi et al, US Patent 6,246,982. Applicants respectfully traverse.

As basically described in the previous Office action response, both the Beigi et al's patent and applicant's invention have the notion of an overall "inter-collection" distance between two mixture PDFs, where this overall "inter-collection" distance depends on the element distances. In the Beigi et al patent,

> for each distribution of the first collection, the distance to each distribution of the second collection is measured to determine which distribution of the second collection is the closest, (abstract, lines 4-7)

and vice versa. That is, "the same procedure is performed for the distribution of the second collection" (abstract, lines 7-9). More specifically, as described in col. 4, lines 17-30, for each member of an N-member collection A **one** distance is selected (i.e., used in forming the distance), that being the distance to the member of a K-member collection B that is nearest. This one distance is multiplied by a weighting factor W that is based on the number of samples, and accumulated to form the developed overall "inter collection" distance.

Applicants develop a better overall distance "inter-collection" measure.

Applicants' better measure is generated by considering, for each member in collection A, the distances between that member and **all** members of the other collection. That is, all of the distances are used in forming the distance. Stated in other words, whereas in Beigi et al a collection member A_i contributes one distance measure to an N-element overall sum, in applicants' method, in contradisctinction, the same collection member contributes K distances, each corresponding to the distance between that member (A_i) and a member in collection B, weighted by a specific value between 0 and 1.

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In a sense, one can view the Beigi et al approach as a very limited subset of applicants' invention – one where for each member of collection A there is a set of multiplicative weights (in addition to the weights W), but this set is restricted to all 0 values, except for one value of 1, which corresponds to the shortest distance.

Applicants' claims clearly reflect this difference. Claims 1 and 5, for example, include the limitation "there exists some value of i for which $\omega_{ik} > 0$ for at least two values of k." Claim 13 includes the limitation "$\omega_{ik} > 0$ for at least two values of k for each value of i." These limitations have a double effect: They insist on at least **two** distance terms being employed (rather than just one, as in Beigi et al) and they make insist that the weights are greater than 0 and less than 1 (which the reference does not teach). It is noted that the weights W in the reference do not correspond to the weights ω_{ik}. In view of the above-discussed differences, it is respectfully submitted that claims 1-26 are not anticipated by Beigi et al.

In light of the above amendments and remarks, applicants respectfully submit that all of the Examiner's rejections have been overcome. Reconsideration and allowance are, respectfully solicited.

Respectfully,
Qian Huang
Zhu Liu

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By _____
Henry T. Brendzel
Reg. No. 26,844
Phone (973) 467-2025
Fax (973) 467-6589
email brendzel@comcast.net